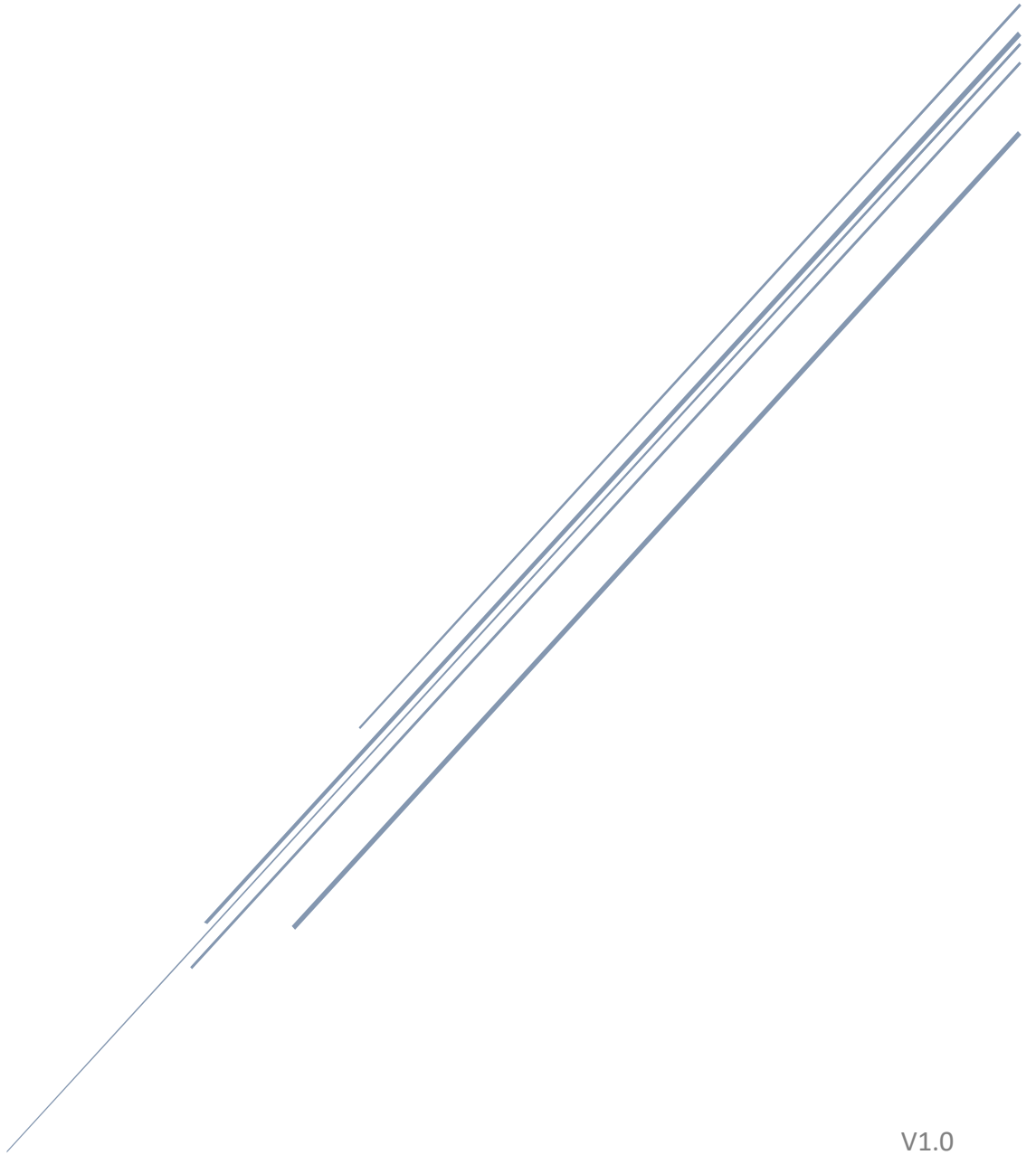


DENAFRIPS

ARCE STREAMER

OWNER'S MANUAL



V1.0
12th Sept 2023

Contents

1.	INSTALLATION & SAFETY INSTRUCTIONS.....	2
2.	INTRODUCTION	3
3.	DESIGN HIGHLIGHTS	4
3.1	ADAPTIVE FIFO BUFFER RECLOCKING	4
3.2	PROPRIETARY STREAMER MODULE	4
3.3	STREAMER ARCHITECTURE	5
4.	OPERATING INSTRUCTION	6
4.1	Quick Start Guide	6
5.	SPECIFICATIONS	11
6.	WARRANTY.....	12

1. INSTALLATION & SAFETY INSTRUCTIONS

This STREAMER is designed and built to provide trouble-free performance, but as with all electronic devices it is necessary to observe a few precautions:

- Unpack the STREAMER carefully.
- Position the STREAMER on a stable, horizontal surface, i.e. sturdy rack.
- The STREAMER supports voltage 100-250VAC worldwide voltage by a voltage selector. The voltage selector can be found at the bottom of the STREAMER. Switch it to the correct voltage prior to powering it up, i.e. 115V for the US / 230V for the EU.
- Please connect the AC power cord with earth(ground) pin unless it is absolutely required to reduce hum from the ground loops of the connected devices.
- Always ensure that when disconnecting and reconnecting your audio equipment the mains supply is turned off.
- Position the power cord and signal interconnects where they are not likely cause trip and fall hazard.
- Do not use the STREAMER near water, or place water-filled containers on the STREAMER. Entry of liquid into the STREAMER is hazardous and may cause electric shock and/or fire hazard.
- Do not place the unit under direct sunlight or heat source.
- Do not remove any covers or try to gain access to the inside. There are no user adjustments or fuses to change without qualification.
- Clean regularly with a damp soft cloth. Do not use any cleaning agents as it might damage the surface finishing.
- The electronics in modern hi-fi equipment is complex and may, therefore, be adversely affected or damaged by lightning. For protection of the audio system during electrical storms, disconnect the mains plugs.

2. INTRODUCTION

Thank you for purchasing the DENAFRIPS ARCE STREAMER.

"ARCE, the inaugural streamer of DENAFRIPS, designed with a primary focus on delivering an exceptional sound quality experience."

As a tribute to DENAFRIPS' 12 years of unparalleled digital audio expertise, the ARCE streamer has been crafted to prioritize sound quality above all else. This remarkable device supports roon Bridge (*roon Ready pending*), HQPlayer NAA, Airplay, and DLNA, catering to audiophiles seeking diverse playback options.

ARCE streamer's capabilities extend beyond its primary features. It offers seamless playback of local files through USB, SD card, and NAS, empowering users to enjoy their music library effortlessly.



3. DESIGN HIGHLIGHTS

3.1 ADAPTIVE FIFO BUFFER RECLOCKING

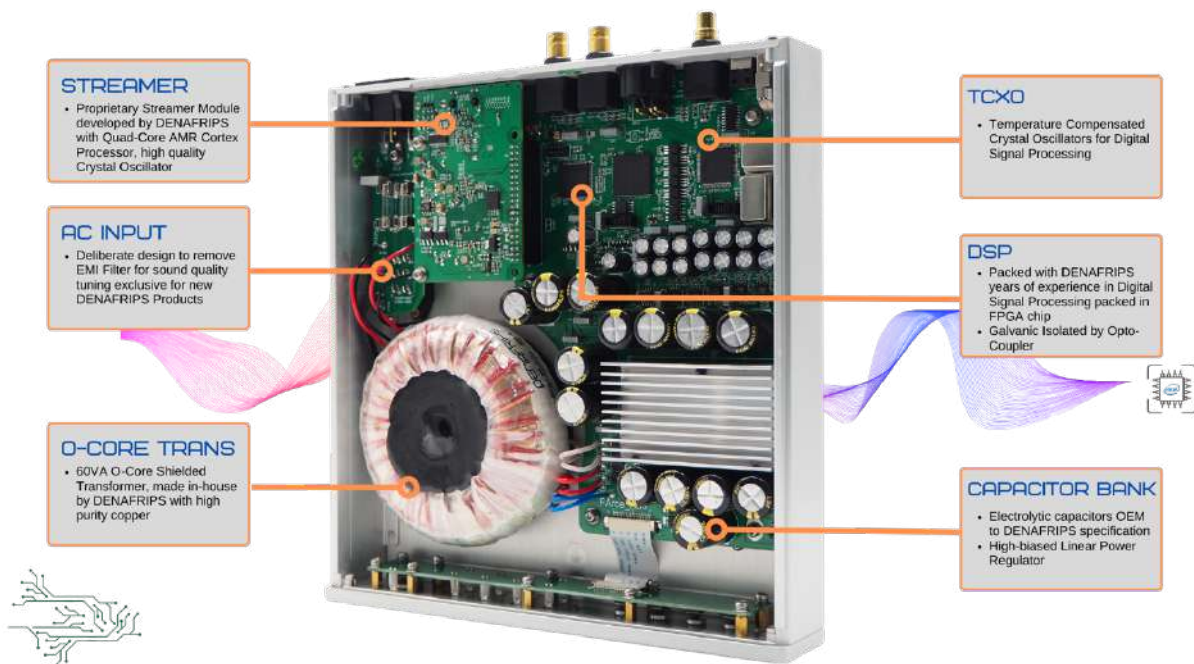
The DENAFRIPS approach to address the jitters issue by FIFO BUFFER RECLOCKING. The adaptive FIFO buffer store the source digital audio data in the memory. These data are read from the memory using the low phase noise, precision TCXO FEMTO Clock, located right in the STREAMER.

This technology is close to the perfection, especially so with the local FEMTO Clock. The jitter is so small that it can be neglected.

3.2 PROPRIETARY STREAMER MODULE

The ARCE STREAMER is equipped with a unique Streamer Module - *developed by DENAFRIPS engineer in-house* - incorporating a Quad-Core AMR Cortex Processor, High Quality Crystal Oscillators, LT Fast Transient Response, Low Noise, and LDO Regulators. Tailored Operating System (OS) optimized to deliver a euphoric sound experience

3.3 STREAMER ARCHITECTURE



DIGITAL SIGNAL PROCESSING – The FPGA chip of this product is filled with DENAFRIPS' extensive experience in Digital Signal Processing. Furthermore, the digital signals are safeguarded through Galvanic Isolation using Opto-Couplers

FEMTO CLOCK – These data are read from the memory using the low phase noise, accurate precision FEMTO Clock, located right in the STREAMER. The processed data are sent to the final stage Discrete R-2R for DA conversion.

4. OPERATING INSTRUCTION

4.1 Quick Start Guide

The ARCE STREAMER is easy to use. Nonetheless, please read this section to fully understand the functions and features available.



Figure 1. ARCE STREAMER Front Panel

Description:

(1) Standby Button

Press the button once to switch on the STREAMER, vice versa, press once to switch the STREAMER into standby mode.

The Standby LED shall be on when the STREAMER is in Standby Mode. The LED shall be dimmed when the STREAMER is in Operating Mode.

(2) LED Status

LED	On	Off
SETUP	Streamer in Setting Mode	One
I2S/USB	Not In Used	Not In Used
NET	Network Connected	Network Connection Lost
LOCAL	Local File Playback	Streaming Service
STREAM	Streaming Service Selected	

(3) SETUP Button

Press the button once to enter Setting Mode – SETUP LED On. Press the button once again to exit Setting Mode – SETUP LED Off.

(4) I2S/USB Button

Not in used.

(5) Source Button

Toggle the button to select the desire Streaming Source, i.e. roon / HQP / Airplay / DLNA.
The correspondence selected Streaming Source's LED will turn On.

(6) Local Button

Press the button once to set the Arce Streamer to playback music from local files control via
Android based App (pending release).

Parameter Settings:

I²S Pin-Out Configuration:

1. Press SETUP button once, SETUP LED on. Arce Streamer in Setting Mode
2. In Setting Mode, the push buttons and LEDs on the front panel represent a different meaning.

Button	On
I2S/USB	Setting Selection – Left
SOURCE	Setting Selection – Right

3. Press I2S/USB or SOURCE button. The Streaming Service LED will turn on/off according. Stop when 'room' LED is turned on. You are in I2S Setting Mode as the 'room' LED on.
4. Toggle the LOCAL button momentarily, I2S/NET/LOCAL will turn on/off in a fixed pattern to denote binary 000-111
5. Set the I2S Pinout to 000
6. Wait for 5s or Press the SETUP button once again to exit Setting Mode
7. STREAMER back in operational mode

I²S Pinout Configuration

MODE	LED			I2S PINOUT						
	I2S DATA	NET BCK	LOCAL LRCK	PIN MODE	DATA 1	DATA 3	BCK 4	BCK 6	LRCK 7	LRCK 9
0	0	0	0	0	DATA-	DATA+	BCK+	BCK-	LRCK-	LRCK+
1	1	0	0	1	DATA+	DATA-	BCK+	BCK-	LRCK-	LRCK+
2	0	1	0	2	DATA-	DATA+	BCK-	BCK+	LRCK-	LRCK+
3	1	1	0	3	DATA+	DATA-	BCK-	BCK+	LRCK-	LRCK+
4	0	0	1	4	DATA-	DATA+	BCK+	BCK-	LRCK+	LRCK-
5	1	0	1	5	DATA+	DATA-	BCK+	BCK-	LRCK+	LRCK-
6	0	1	1	6	DATA-	DATA+	BCK-	BCK+	LRCK+	LRCK-
7	1	1	1	7	DATA+	DATA-	BCK-	BCK+	LRCK+	LRCK-

Table 1. I2S PINOUT CONFIGURATION

I²S DSD L/R Channel Configuration:

1. Press SETUP button once, SETUP LED on. Arce Streamer in Setting Mode
2. In Setting Mode, the push buttons and LEDs on the front panel represent a different meaning.

Button	On
I2S/USB	Setting Selection – Left
SOURCE	Setting Selection – Right

3. Press I2S/USB or SOURCE button. The Streaming Service LED will turn on/off according. Stop when 'DLNA' LED is turned on. You are in I2S DSD L/R Channel Setting Mode as the 'DLNA' LED on.
4. Toggle the LOCAL button momentarily, LOCAL LED will turn on/off.
 - LOCAL LED Off – I2S DSD Channel Norm
 - LOCAL LED On – I2S DSD Channel Swap
5. Wait for 5s or Press the SETUP button once again to exit Setting Mode
6. STREAMER back in operational mode

External Clock Configuration:

1. Press SETUP button once, SETUP LED on. Arce Streamer in Setting Mode
2. In Setting Mode, the push buttons and LEDs on the front panel represent a different meaning.

Button	On
I2S/USB	Setting Selection – Left
SOURCE	Setting Selection – Right

3. Press I2S/USB or SOURCE button. The Streaming Service LED will turn on/off according. Stop when 'Airplay' LED is turned on. You are in External Clock Setting Mode as the 'Airplay' LED on.
4. Toggle the LOCAL button momentarily, NET LED will turn on/off.
 - NET LED Off – Arce uses internal clock
 - NET LED On – Arce uses external clock
5. Wait for 5s or Press the SETUP button once again to exit Setting Mode
6. STREAMER back in operational mode



Figure 2. ARCE STREAMER Rear Panel

Description:

(1) AC Power Supply

CAUTION! Select the correct AC Power Supply voltage prior supplying the power to the ARCE STREAMER. The voltage selector switch is located underneath the ARCE STREAMER chassis.

(2) USB

USB ports for USB Storage Devices local files play.

(3) NET

Ethernet RJ45 Network Port. Connect Arce Streamer to the Home Network (Router). The router shall assign an IP address to the Arce Streamer. Once the NET LED on the front panel is turned on, the streamer is ready to use.

(4) Digital Output Interfaces

There are 4 Digital Output Interfaces, namely, COAX, AES, OPT, I2S-A. All outputs are active simultaneously.

(5) CLOCK IN

The Arce Streamer supports the following clock frequencies input, leveraging the high-quality OCXO of the *TERMINATOR II* or *TERMINATOR PLUS* DAC, it may be connected to Arce CLOCK-IN to improve the sonic performance.

MASTER CLOCK

- 45.1548MHz, 49.152Mhz

NOTE:

The ARCE STREAMER chassis is connected to the power supply earth.

5. SPECIFICATIONS

Description	Parameters
Streaming Services Supported	room Bridge (room Ready pending)
	HQPlayer NAA
	AirPlay (16/44.1kHz)
	DLNA (16/44.1kHz)
DSD	DSD64 / 2.8224MHz (DoP) on All Outputs
	DSD512 on I ² S Output
PCM	24bits / 44.1, 48, 88.2, 96, 176.4, 192KHz on All Outputs
	384kHz on I ² S Output
Digital Output	Coax x 1
	AES/EBU x 1
	TOSLink x 1
	I ² S LVDS over HDMI Connector x 1
Internet Connection	Ethernet RJ45
Storage Files Playback	USB Storage, SD Card, Network shared folder NAS
AC Power Requirement	100-240VAC, 50/60Hz (Worldwide Voltage, Manual Selector)
Power Consumption	≤20W
Dimension	215 x 230 x 45 mm
Weight	3.5 Kg

6. WARRANTY

DENAFRIPS ARCE STREAMER purchased from the Authorized Distributor comes with 36 months of warranty from the date of purchase / delivery (whichever later).

Defective Within	Warranty Policy
First 30 Days	DENAFRIPS to bear both way shipping fee.
Within 1st Year	Customer to bear one-way shipping fee. DENAFRIPS shall cover the return shipping fee.
Within Warranty Period	Customer to bear both way shipping fee. DENAFRIPS to repair at free of charge.
Out of Warranty	Customer to bear both way shipping cost. DENAFRIPS to provide repair / maintenance services at cost.